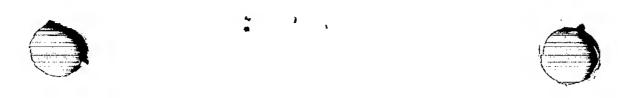
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What is claimed is:

- 1. A method of identifying senile plaques, neurofibrillary tangles and neuropil threads in brain tissue comprising:
- (a) contacting brain tissue with a fluorescent dye capable of intercalating selectively into nucleic acids; and
 - (b) detecting any fluorescence in the brain tissue indicative of senile plaques, neurofibrillary tangles and neuropil threads in the brain tissue.
- A method of identifying RNAs in senile plaques, neurofibrillary tangles, and neuropil threads of brain tissue which encode proteins involved in the pathogenesis of Alzheimer's disease comprising:
- (a) isolating single senile plaques in brain tissue by 15 immunocytochemical techniques;
 - (b) identifying the presence of RNA by contacting said senile plaque with a fluorescent dye capable of intercalating selectively into nucleic acids;
 - (c) amplifying the identified RNA; and
- (d) determining whether the amplified RNA product hybridizes to any known cDNAs for proteins involved in the pathogenesis of Alzheimer's disease.
 - 3. A method of diagnosing Alzheimer's disease in a patient suspected of having Alzheimer's disease comprising detecting the presence of an RNA identified by the method of claim 2 in the brain of the patient.
 - 4. A method of detecting the presence of messenger RNA in senile plaques, neurofibrillary tangles, and neuropil threads of brain tissue wherein said messenger RNA encodes a protein involved in the pathogenesis of Alzheimer's disease comprising:

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a) isolating single senile plaques in brain tissue by immunocytochemical methods;

- b) identifying the presence of RNA by contacting said senile plaque with a fluorescent dye capable of intercalating selectively into nucleic acids;
 - c) amplifying said RNA; and
 - d) hybridizing the amplified RNA product to a known cDNA for a protein involved in the pathogenesis of Alzheimer's disease.

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